ENGLISH

WOLFVISION®

EYE-10 / EYE-12
(SCB-1 / SCB-12)
Progressive Scan Cameras

DISTRIBUIDORA OFICIAL NO BRASIL
absolut technologies
WWW.ABS-TECH.COM

High Resolution Live Image Cameras
Ceiling Cameras and Camera Modules

EYE-10 and EYE-12 are **high resolution live image cameras**. They can be used for various live image presentation applications. For example: as a Visualizer or for live image transmissions from room to room.

WolfVision is the **technology leader** in the Visualizer Market. The high quality standards of the EYE-10 and EYE-12 come as no surprise because all components are nearly identical to those used for WolfVision's popular Portable Visualizer series.

The EYE series cameras can be used like **Ceiling Visualizers (without light)** when mounted on the ceiling or integrated into a suspended ceiling.

Furthermore, it is possible to mount the cameras on tripods, pant-tilt-zoom mounts or wall mounts designed for video or surveillance cameras.

EYE-10
(Basic Model)

EYE-12
(Top Model)

Improved connectivity is one of the main advantages of the **top of the line camera EYE-12** over the **basic model EYE-10**.

Both cameras feature the following connectors:
RGB, **RS-232**, **Power**, **External IR-Receiver** and **Kensington Lock** (anti theft device).

Additional ports of the EYE-12:
DVI-I (Digital and Analog), **USB**, **Ethernet/LAN** (including Power over Ethernet functionallity) and **Trigger**.

External Controlling

A huge difference to consumer oriented HD camcorders is that the EYE-10 and EYE-12 can be perfectly remote controlled in many ways:

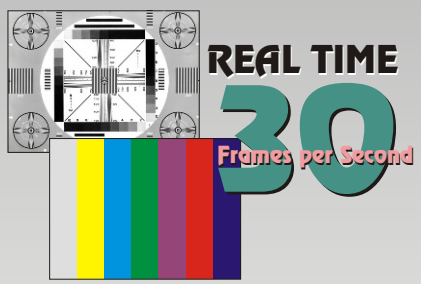
- with the **keypad on the unit**
- with the supplied **infrared remote control**
- via **serial port (RS232)**
- via **USB port** (EYE-12)
- via **LAN port** (EYE-12)

RS 232 USB 2.0 Ethernet

The cameras can be integrated in a **professional room control system** via RS-232, LAN or USB. The professional protocol with position setting and status report is supported on all three ports.

The cameras have large and clearly arranged keys on the remote control and on the integrated keypad. The infrared reception is excellent due to the built-in and external infrared receiver (with 10m cable).

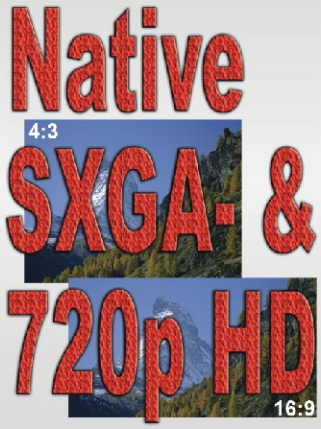
State of the Art Picture Quality



WolfVision's Visualizers and Cameras are famous for their outstanding picture quality that can only be achieved through a perfect combination of these 3 elements:

- **High End Electronics**
- **High Resolution CCDs**
- **High Resolution Lenses** (with perfect edge focus and a large optical zoom range)

As the EYE-10 and EYE-12 can pick up **30 non-interlaced frames per second**, there is practically no difference in the smoothness of motion when compared to a PAL/NTSC video camera. But the resolution is much higher!



The "top of the line" model **EYE-12** features a **sensational CCD camera** with **1280 x 960 pixels** at **30 frames per second**.

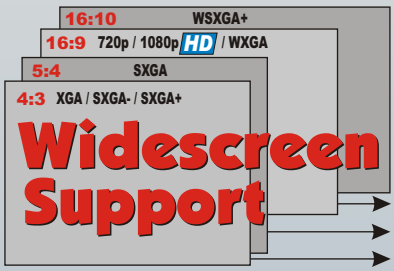
This is **native SXGA- resolution** with an aspect ratio of **4:3**. The camera also outputs **native 720p HD (High Definition)** with 1280 x 720 pixels and a widescreen aspect ratio of **16:9**.

Using a display device with 1280 x 960 (or more) pixels, **820 lines of resolution** are visible on your screen!

But even when the image is downscaled by the EYE-12 to XGA and output on an XGA display device the resolution is still around 740 lines.

The "basic" model **EYE-10** has a CCD with **XGA resolution** (1024 x 768 pixels). This is also a much higher resolution than PAL/NTSC video can provide.

High End Scaler / Widescreen Support



The high end scaler of the EYE-12 can **scale the picture at the image source**. As a result, the picture quality is not only perfect in native resolution, but also in all scaled signal formats:

SVGA	800 x 600 pixels	4:3	scaled
XGA	1024 x 768 pixels	4:3	scaled
SXGA-	**1280 x 960 pixels**	**4:3**	**native**
SXGA	1280 x 1024 pixels	5:4	scaled
SXGA+	1360 x 1024 pixels	4:3	scaled
720p HD	**1280 x 720 pixels**	**16:9**	**native**
1080p HD	1920 x 1080 pixels	16:9	scaled
WXGA	1360 x 768 pixels	16:9	scaled
WSXGA+	1680 x 1050 pixels	16:10	scaled

All projectors, monitors or plasma displays on the market can display at least one of these standards. If new standards come up in the future, WolfVision will be there with **Firmware Updates**!

sRGB Color Precision

The outstanding color precision of the EYE-12 meets the high requirements of the **sRGB** standard.

DISTRIBUIDORA OFICIAL NO BRASIL
absolut technologies
WWW.ABS-TECH.COM

USB 2.0 / Twain / Video Capture / AVI

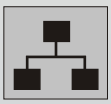
The **USB** port of the EYE-12 can be used to transfer **still images** from the camera to a computer and save them in JPG, TIF or BMP format. This way, the EYE-12 can be used as a scanner for 3-dimensional objects.

The EYE-12 is equipped with a fast **USB 2.0** port. This allows for uploading images onto a PC in a fraction of a second. Connecting slower computers with the older USB 1.1 standard is also no problem. It still takes only a small fraction of the time a desktop scanner requires to scan an image.

WolfVision's USB Software (Connectivity Software) works under Windows 2000, XP, Vista and Macintosh and is fully Twain compatible. This is important when using the EYE-12 in connection with popular graphic programs such as Photoshop, or for connecting it to Interactive Whiteboards (Smart Boards). More information on the WolfVision Connectivity Software at: www.wolfvision.com/wolf/usbsoftware.html

The fast USB 2.0 port can also output **live motion**. The Connectivity Software can **store AVI-files** and includes a **video capture driver**. You can view and save the live image from the EYE-12 on your computer in almost every modern video editing software.

Ethernet (LAN) Port

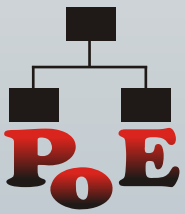


The EYE-12 is equipped with an **Ethernet (LAN)** port (10/100 Mbps).

It is IP-addressable, so that it can be integrated into a computer network and controlled from any computer in the network. It can even be controlled over the internet, if it is assigned an official (WAN) IP-address.

The network/LAN-port has become a key feature of all high end Visualizers from WolfVision in recent years. All **advanced network features** including **professional LAN-protocol** are now available on the camera EYE-12.

Power over Ethernet (PoE)



The LAN-port of the EYE-12 includes **Power over Ethernet (PoE)** functionallity. Power over Ethernet is a popular way of saving cables and installation costs.

Using a PoE-adapter (according to the IEEE 802.3af industry standard) between 36 and 57 volt can be added to a CAT-5 (or higher) ethernet cable and the camera can receive power via the Ethernet/LAN-cable.

A switch mode power supply in the camera converts the power to 12 volt.

Trigger Function

In "**normal mode**" the EYE-12 outputs a live image with 30 different frames per second. In "**trigger mode**" the EYE-12 only shows a new image when it receives a trigger signal from an external unit. The EYE-12 keeps showing the same, **frozen** image until it receives the next trigger pulse.

This is very useful for surveillance and machine vision applications. For example a light barrier can simultaneously send out a trigger pulse to the EYE-12 and to a harddisc recorder when someone enters a room. Most recording devices can not start recording in a fraction of a second. If the camera would output a live image, a later image would be recorded, which does not show the exact situation anymore. But as the trigger function freezes the image output by the EYE-12, the exact image is recorded.

The EYE-12 can process **up to 15 trigger pulses per second**. The delay time between a trigger pulse and the end of the image capturing is exactly 1/30 second.

The autosave function of **WolfVision's Connectivity Software** (USB Software) can automatically save images triggered by the EYE-12 on a PC.

Firmware Updates Via Internet

Firmware Updates allow for **new features and technical improvements** to be added at no cost. Downloading firmware updates from the internet and uploading them onto the cameras is very easy.

EYE-10 and EYE-12 can use a **serial RS-232** connection for Firmware Updates. In addition the firmware of the EYE-12 can also be updated via **USB** or **Ethernet/LAN**.

WolfVision's engineers are constantly working on new improvements and features to **keep your units up to date with the technology of tomorrow**!

Picture Memory

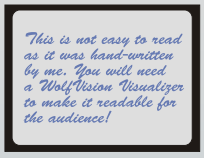
The user has the opportunity to **store 9 (EYE-12) or 4 (EYE-10) images** and recall them by just pressing one of the numerical keys on the infrared remote control.

By pressing the "All" key of the EYE-12, a split image with all 9 pictures of the memory can be displayed, enabling easy selection.

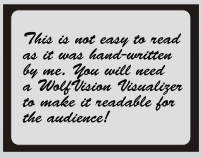
The 9 pictures in the memory can also be downloaded to a PC via USB.

The EYE-12 is equipped with a flash memory, so pictures remain in the memory even when the power is disconnected.

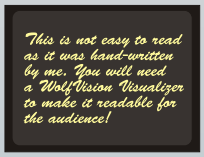
Negative / Negative-Blue / BW


This is not easy to read as it was hand-written by me. You will need a WolfVision Visualizer to make it readable for the audience!

Original


This is not easy to read as it was hand-written by me. You will need a WolfVision Visualizer to make it readable for the audience!

Black/White


This is not easy to read as it was hand-written by me. You will need a WolfVision Visualizer to make it readable for the audience!

Negative

This is not easy to read as it was hand-written by me. You will need a WolfVision Visualizer to make it readable for the audience!

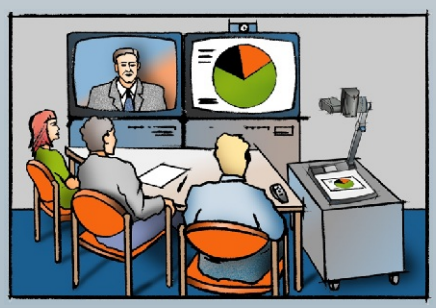
Negative/Blue

The EYE-12 offers many possibilities to improve the readability of text.

Dark text on a bright background can sometimes be easier to read if the camera is switched to "**Negative**" or "**Negative/Blue**".

For special applications (like analyzing x-rays), the image can also be switched to **Black and White**.

Optimized for Video Conferencing



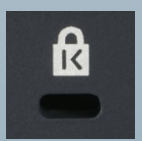
WolfVisions camera electronics produce a very **strong and stable picture**, which is also very important when EYE series cameras are used as **document cameras** or **room cameras** for videoconferencing systems.

The **smooth auto iris** and **perfect focus** are very important features, enabling video conferencing systems to digitize and transfer the picture from a WolfVision camera very fast. Furthermore the auto iris does not close down too much when a bright lamp is in the picture. As a result the rest of the image remains visible.

Of course these features are equally important for live image presentations with a data projector and for other applications.

The EYE-12 also supplies the proper signal for modern **widescreen or HD videoconferencing systems**.

Anti-theft Device



WolfVision's EYE series cameras are equipped with **T-Lock (Kensington® Lock**) anti-theft devices.

Supplied Accessories

- U-shaped mounting clip (for attaching the camera on the back of the unit to a tripod or ceiling mount)
- 2x 1/4" UNC screws
- Infrared remote control (with laser pointer)
- External infrared receiver with 10m cable and status LED
- Power supply and power cable
- Instructions
- CD-ROM (with WolfVision Connectivity Software etc.)
- RGB Cable (5 meters, with 15-pin D-Sub/VGA plugs)
- USB Cable (EYE-12)
- LAN Cable (EYE-12)
- BNC-RCA Adapter for trigger (EYE-12)

Tile Bridge (Optional Accessory)

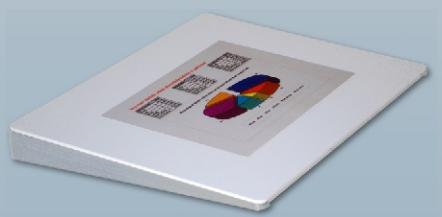
The **Ceiling Tile Bridge** is designed to help install the EYE series cameras into a standard grid of a suspended ceiling (2' x 2' or 2' x 4'). It is made of aluminium to ensure a light but sturdy construction. It fits standard ceiling grids in American and European size.

The EYE cameras are attached to the Tile Bridge via a camera mount. The mount can be rotated 360 degrees and moved across the Tile Bridge, in order to align the camera with the working surface.

A white trim ring is included to dress up the ceiling tile once the EYE-10 and EYE-12 are properly adjusted and in place.

In USA and Canada the Tile Bridge is shipped with an additional cover for plenum rating.

Working Plate (Optional)



Size:
Length: 320 mm (12.6")
Width: 430 mm (16.9")
Height: 10-40 mm (0.4"-1.6")
Inclination: 12°

Working plate in crystalline white for perfect reproduction of transparencies and reflecting material like photos or glossy brochures. The working plate is 12° inclined in order to avoid reflections.

Light Boxes LB-9 and LB-38 (Optional)

WolfVision offers Lightboxes for x-rays, slides and transparencies in two sizes. They guarantee a maximum on gray scale and true colors:

LB-38: 430 x 359 mm (16.9" x 14.1")
LB-9: 300 x 210 mm (11.8" x 8.3")

Close-Up Lens (Optional)

Using the optional Close-Up Lens the EYE-10 and EYE-12 can be used like a "Desktop Visualizer". Objects can be focused in a close distance to the camera.

Technical data: High resolution achromatic lens, focus range 310-460mm, focal distance: f=477mm, lens diameter: 50mm, attachment thread: M46 x 0.75

More information on these and other accessories from WolfVision and other manufacturers at:

www.wolfvision.com/accessories

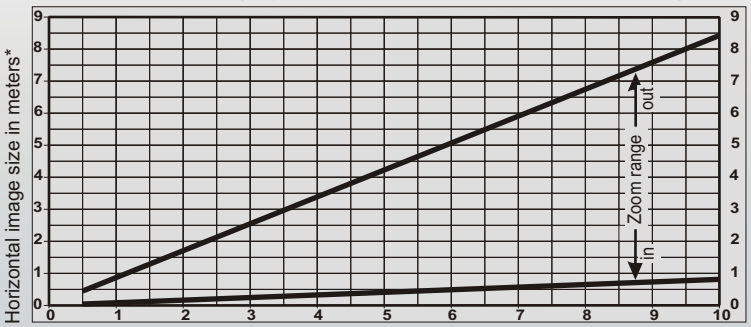
Picture Size / Distance camera to object

Distance in mm	Length			Width		
	Smallest picture with 2x digital zoom	Smallest picture with optical zoom	Largest picture	Smallest picture with 2x digital zoom	Smallest picture with optical zoom	Largest picture
600	22	44	392	30	59	522
800	28	55	517	37	73	689
1.000	33	66	642	44	88	856
1.200	38	77	768	51	102	1023
1.400	44	87	893	58	116	1191
1.600	49	98	1018	65	131	1358
1.800	54	109	1143	73	145	1525
2.000	60	120	1269	80	159	1692
2.200	65	130	1394	87	174	1859
2.400	71	141	1519	94	188	2026

Distance in inch (feet)	Length			Width		
	Smallest picture with 2x digital zoom	Smallest picture with optical zoom	Largest picture	Smallest picture with 2x digital zoom	Smallest picture with optical zoom	Largest picture
20" (1.67')	0.77"	1.55"	13.15"	1.03"	2.06"	17.53"
30" (2.50')	1.04"	2.09"	19.42"	1.39"	2.78"	25.89"
40" (3.33')	1.31"	2.62"	25.68"	1.75"	3.50"	34.24"
50" (4.17')	1.58"	3.16"	31.95"	2.11"	4.21"	42.60"
60" (5.00')	1.85"	3.70"	38.21"	2.47"	4.93"	50.95"
70" (5.83')	2.12"	4.24"	44.48"	2.82"	5.65"	59.30"
80" (6.67')	2.39"	4.77"	50.74"	3.18"	6.36"	67.66"
90" (7.50')	2.66"	5.31"	57.01"	3.54"	7.08"	76.01"
100" (8.33')	2.92"	5.85"	63.27"	3.90"	7.80"	84.36"

Please consider positioning of the light for the camera carefully in order to avoid reflections or ugly shadows. Check out the installation instructions at:
www.wolfvision.com/support

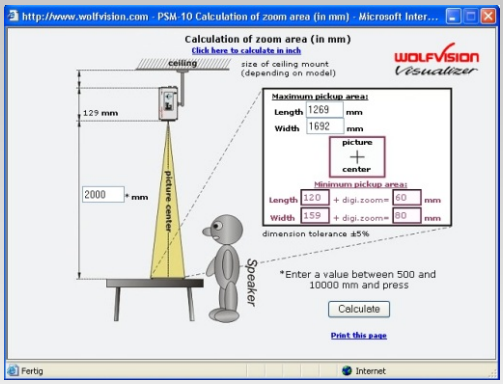
Picture size chart (regular distance from 0.5 to 10 meters)



* Vertical image size = $\frac{\text{horizontal size}}{4}$ x 3

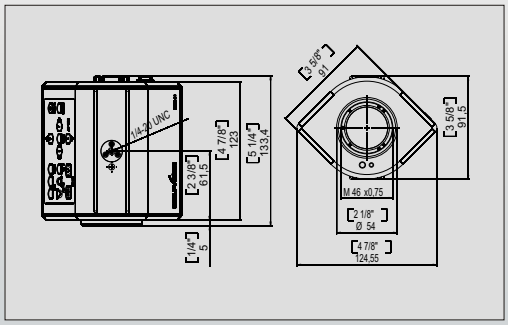
Calculation Program

A very comfortable method to calculate the exact positioning and the possible image sizes is a dedicated calculation program on WolfVision's homepage:



www.wolfvision.com/support

Dimensions



More detailed dimension drawings:
www.wolfvision.com/support

Camera Modules

(connection panel optional)

The camera modules of WolfVision's SCB series are identical to the EYE series cameras, but come without housing and accessories.

SCB-12 is the camera/lens module version of the camera EYE-12 (images on the left)

SCB-1 is the camera/lens module version of the camera EYE-10 (image below)

More information at: www.wolfvision.com

Technical Data

	EYE-10 (Also available as camera module **SCB-1** without housing and accessories)	EYE-12 (Also available as camera module **SCB-12** without housing and accessories)
Camera	1/3" Progressive Scan CCD	
Pictures per second (as picked up by the camera)	30 frames (=full pictures)	
Effective Pixel (=pixels actually used for image information)	1024 x 768 (=786,462)	1280 x 960 (=1,228,800)
Total pixels of CCD(s)	850,000	1,320,000
Pixels processed per second (=effective pixels x frames per second)	23,600,000	36,864,000
Color reproduction / precision	very good colors	very good colors (sRGB color precision)
Native signal output	XGA (1024x768)	SXGA- (1280x960) and HD (High Definition) 720p (1280x720)
Converted output signals (4:3 and 5:4)	-	SXGA+ (1360x1024), SXGA (1280x1024), XGA (1024x768), SVGA (800x600)
Converted Widescreen output signals	-	1080p HD (1920x1080) (High Definition at 50/60Hz), WXGA (1360x768), WSXGA+ (1680x1050)
Resolution (measured)	640 lines	820 lines
Resolution in Image Turn mode	-	1050 lines
Image Turn mode (for increased resolution when picking up large portrait pages)	-	yes
Image Rotation	180 degrees	90, 180 and 270 degrees
Vertical image-frequency	75 and 60 Hz (switchable)	85, 75 and 60 Hz (switchable)
Horizontal image-frequency	47.7 to 60.2 kHz	31.5 - 91.1 kHz
Iris	automatic and manual	
White balance adjustment	automatic and manual	
Autofocus / Speed	yes (continuously working, high speed)	
Manual focus	yes	
Shutter	auto, manual, flickerless	
On screen menu	yes	yes (improved graphical menu)
On screen help (for menu)	-	yes
Firmware Updates via	RS232 (serial port)	USB, RS232, LAN
Zoom	24 x zoom (12x optical + 2x digital)	48 x zoom (12x optical + 4x digital)
Lens	f = 5.8 to 69.6 mm, F = 2.8 to 3.0, with M46 x 0.75 mm lens mount, Field of view: horizontal: 4.4°-45.7° vertical: 3.3°-35.1°	
Connectivity Software (USB/LAN, for controlling, image and video capturing)	-	included (twain compatible, with video capture driver)
Time for still image capture through USB software	-	approx. 1/2 sec. (with fast PC and USB 2.0)
User programmable presets	3 (plus one more via RS232)	
Image memory	4 pictures	9 pictures
"Show all" function (9 picture split-screen)	-	yes
Alternative Image display	-	negative / negative-blue / black and white
RGB output	two (15-pin D-Sub/VGA-plug)	two (15-pin D-Sub/VGA-plug and with DVI-I to VGA adapter)
DVI output	-	DVI-I (digital and analog)
HDMI output	-	when using a DVI-HDMI cable
USB port with professional protocol / standard	-	USB 2.0
Ethernet/LAN port with professional protocol	-	yes, 10/100 Mbps, with PoE (Power over Ethernet)
RS232 port and serial protocol with position setting and status report	9-pin D-Sub	
Trigger Port	-	RCA (+BNC adapter), max.15 pulses / sec., delay: 1/30 sec.
Dimensions in operation (L x W x H)	91 mm x 125 mm x 133 mm (3.6" x 4.9" x 5.2")	
Weight	0.6 kg (1.3 lbs)	0.8 kg (1.7 lbs)
Infrared remote control	yes (with laserpointer), internal and external receiver (with 10 m cable and status LED)	
Anti-theft device	T-Lock (Kensington® Lock)	
Tripod mount / ceiling mount	2 tripod mounts (on top and bottom, 1/4-20 UNC) plus u-shaped mounting clip (for attaching the camera on the back of the unit)	
Power pack	multi range 100-240 V, 10W	
Power over Ethernet		36-57 V PoE (IEEE 802.3af standard)
Made in	EU / Austria	
Warranty	3 years	

All units made in European Union (Austria)

Design and specifications subject to change!

Printed in Austria, February 2009

Your WolfVision dealer:

DISTRIBUIDORA OFICIAL NO BRASIL
absolut technologies
WWW.ABS-TECH.COM

WOLFVISION®

More information at:
www.wolfvision.com

Head office:	WolfVision GmbH, Klaus/Austria	Tel. ++43/5523/52250, Fax ++43/5523/52249	wolfvision@wolfvision.com
USA distribution:	WolfVision Inc, Duluth (Atlanta)	Tel.(770)931-6802, Tollfree 1-877-873WOLF, Fax:(770)931-6906	usa.east@wolfvision.com
	WolfVision Inc, Burlingame (San Francisco)	Tel.(650)648-0002, Tollfree (800)356-WOLF, Fax:(650)648-0009	usa.west@wolfvision.com
Asia distribution:	WolfVision Asia, Singapore	Tel.++65-6366 9288, Fax: ++65-6366 9280	info@wolfvisionasia.com
Canada distribution:	Wolfvision Canada Inc, Ottawa	Tel. 613-741-9898, Fax 613-741-3747	wolfvision.canada@wolfvision.com
Japan distribution:	WolfVision Co Ltd, Tokyo	Tel.(++81)3-33603231, Fax:(++81)3-33603236	wolfvision.japan@wolfvision.com
UK distribution:	WolfVision UK Ltd, Manchester	Tel. 0161 435 6081, Fax: 0161 435 6100	wolfvision.uk@wolfvision.com